Patent Claims

1.   A system for web-based monitoring and control of distributed installations (3.1, 3.2... 3.n) with at least one web client (1) which interchanges data/information with web servers (2.1, 2.2... 2.n) in the respective distributed installation (3.1, 3.2... 3.n) via communication links (K), and that the at least one web client (1) comprises applications (10) and an integration layer (11) which execute, show and/or display the data/information interchange with the distributed installations (3.1, 3.2,... 3.n).

2.   The system as claimed in claim 1, wherein the integration layer (11) is formed by a piece of integral software for data interchange and/or for data evaluation with the distributed installations (3.1, 3.2... 3.n).

3.   The system as claimed in either of claims 1 and 2, wherein the purpose of data interchange between the web client (1) and the distributed installations (3.1, 3.2... 3.n) is served by virtue of the web client (1) containing representative services (12), (13), (14) for communication by the web servers (2.1, 2.2... 2.n) in the respective distributed installations (3.1, 3.2... 3.n), said representative services communicating with the integration layer (11) and with the web servers (2.1, 2.2... 2.n) in the respective distributed installations (3.1, 3.2... 3.n).

4.   The system as claimed in one of the preceding claims, characterized in that the applications (10) stored in the web client (1) are applications or application programs which show and/or display the data which have been combined into a uniform structure using the integration layer (11).

5.   The system as claimed in one of the preceding

claims, wherein the integration layer (11) preprocesses data requests from the applications (10).

6. The system as claimed in one of the preceding claims, characterized in that the applications (10), the integration layer (11) and the representative services (12), (13), (14) are in the form of software components and can be installed and executed automatically using standard web mechanisms.

7. The system as claimed in one of the preceding claims, wherein the distributed installations (3.1, 3.2... 3.n) store data structures with references, where the references contain pointers to data, structures and/or substructures in further distributed installations.

8. The system as claimed in one of the preceding claims, wherein the integration layer (11) executes the evaluation of the pointers with further distributed installations (3.1, 3.2... 3.n) recursively or cyclically.

9. The system as claimed in claim 8, wherein abortion criteria are provided for the purpose of avoiding continuous loops in the case of cyclic execution of the evaluation of the pointers.

10. The system as claimed in one of the preceding claims, wherein the data interchange between the applications (10), the integration layer (11) and the representative services (12), (13), (14) in the distributed installations (3.1, 3.2,... 3.n) can be executed using local function calls, and the data interchange between the representative services (12), (13), (14) and the web servers (2.1, 2.2... 2.n) in the distributed installations (3.1, 3.2,... 3.n) can be executed using web service calls.

11. A method for web-based monitoring and control of distributed installations (3.1, 3.2... 3.n) with at least one web client (1) which interchanges data/information with web servers (2.1, 2.2... 2.n) in
5   the respective distributed installation (3.1, 3.2... 3.n) via communication links (K), and the at least one web client (1) stores applications (10) and an integration layer (11) which are used to execute, show and/or display the data/information interchange with
10 the distributed installations (3.1, 3.2,... 3.n).

12. The method as claimed in claim 11, wherein the integration layer (11) is formed by a piece of integral software for data interchange and/or for data
15 evaluation with the distributed installations (3.1, 3.2... 3.n).

13. The method as claimed in either of claims 11 and 12, wherein the purpose of data interchange between the
20 web client (1) and the distributed installations (3.1, 3.2... 3.n) is served by virtue of the web client (1) storing representative services (12), (13), (14) which communicate with the integration layer (11) and with the web servers (2.1, 2.2... 2.n) in the respective
25 distributed installations (3.1, 3.2... 3.n).

14. The method as claimed in one of claims 11 to 13, wherein the data which have been combined into a uniform structure using the integration layer (11) are
30 shown and/or displayed using the applications (10) stored in the web client (1).

15. The method as claimed in one of claims 11 to 14, wherein the purpose of requesting data from the web
35 servers (2.1, 2.2... 2.n) in the distributed installations (3.2,... 3.n) is served by virtue of the applications (10) being used to preprocess requests from the integration layer (11).

16. The method as claimed in one of claims 10 to 14, wherein the applications (10), the integration layer (11) and the representative services (12), (13), (14) are in the form of software components and are installed and executed automatically using standard web mechanisms.

17. The method as claimed in one of claims 11 to 16, wherein the distributed installations (3.1, 3.2... 3.n) store data structures with references, the references containing pointers to data, structures and/or substructures in further distributed installations (3.1, 3.2... 3.n).

18. The method as claimed in one of claims 11 to 17, wherein pointers in the respective distributed installation to further distributed installations involve the evaluation of the pointers of the distributed installations (3.1, 3.2... 3.n) being executed recursively or cyclically using the integration layer (11).

19. The method as claimed in claim 18, wherein cyclic execution of the evaluation of the pointers involves the procedure being interrupted by means of suitable abortion criteria and a generated data display being transmitted to the calling client application (10).

20. The method as claimed in one of claims 11 to 19, wherein the references between the distributed installations (3.1, 3.2... 3.n) are resolved only following a request by the web client (1).

21. The method as claimed in one of claims 11 to 20, wherein the data/information in a first installation are first loaded in the integration layer (11) and evaluated in relation to pointers with further distributed installations.

22. The method as claimed in one of claims 11 to 21, wherein the data interchange between the applications (10), the integration layer (11) and the representative services (12), (13), (14) in the distributed installations (3.1, 3.2,... 3.n) is executed using local function calls, and the data interchange between the representative services (12), (13), (14) and the web servers (2.1, 2.2... 2.n) in the distributed installations (3.1, 3.2,... 3.n) is executed using web service calls.